

**WHAT IS CLAIMED IS:**

1. A polyester produced in the presence of a polycondensation catalyst containing at least one compound selected from a group consisting of aluminum compounds and at least one compound selected from a group consisting of phosphorus compounds, wherein aluminum containing insoluble particles therein is 3500 ppm or lower.

2. A polyester produced in the presence of a polycondensation catalyst containing at least one compound selected from a group consisting of aluminum compounds and at least one compound selected from a group consisting of phosphorus compounds, wherein haze value of monoaxially oriented film of the polyester is 2% or lower.

3. The polyester according to claim 1, wherein haze value of monoaxially oriented film of it is 2% or lower.

4. The polyester according to any one of claims 1 to 3, wherein the polyester is polyethylene terephthalate.

5. The polyester according to any one of claims 1 to 4, wherein the polyester has crystallization temperature of 150°C or higher at the time of heating.

6. A polyester containing at least aluminum element, an alkaline earth metal element, an alkali metal element, and phosphorus element and characterized as follows;

(1)  $3 \leq Al \leq 200$  wherein Al denotes aluminum element content

(ppm) in the polyester,

(2)  $0.5 \leq A \leq 50$  wherein A denotes alkali metal element content (ppm) in the polyester,

(3)  $3 \leq AA \leq 200$  wherein AA denotes alkaline earth metal element content (ppm) in the polyester, and

(4)  $0.1 \leq (\text{phosphorus element})/(\text{aluminum element} + \text{alkaline earth metal element}) (\text{atomic ratio}) \leq 2.0$  wherein phosphorus element, aluminum element, and alkaline earth metal element denote their contents in the polyester.

7. The polyester according to any one of claims 1 to 5, wherein the polyester contains at least aluminum element, an alkaline earth metal element, an alkali metal element, and phosphorus element and is characterized as follows;

(1)  $3 \leq Al \leq 200$  wherein Al denotes aluminum element content (ppm) in the polyester,

(2)  $0.5 \leq A \leq 50$  wherein A denotes alkali metal element content (ppm) in the polyester,

(3)  $3 \leq AA \leq 200$  wherein AA denotes alkaline earth metal element content (ppm) in the polyester, and

(4)  $0.1 \leq (\text{phosphorus element})/(\text{aluminum element} + \text{alkaline earth metal element}) (\text{atomic ratio}) \leq 2.0$  wherein phosphorus element, aluminum element, and alkaline earth metal element denote their contents in the polyester.

8. A polyester polymerization catalyst containing an aluminum compound and a phosphorus compound and obtained by mixing the aluminum compound and the phosphorus compound in a solvent.

9. A polyester polymerization catalyst comprising solution containing an aluminum compound and a phosphorus compound, wherein the solution has a peak of phosphorus at chemically shifted position as compared with solution containing the phosphorus compound alone in measurement of  $^{31}\text{P}$ -NMR spectrum.

10. The polyester polymerization catalyst according to claim 8 or 9, wherein the chemical shift of the peak position is shift to the high magnetic field side and the peak is broadened.

11. The polyester polymerization catalyst according to any one of claims 8 to 10, wherein the integrated value of the peaks of NMR spectrum of phosphorus atom bonded with hydroxyl group is 10% or higher to the integrated value of NMR spectrum of phosphorus atom bonded with hydroxyl group in the solution containing the phosphorus compound alone before the solution is mixed with the solution of the aluminum compound.

12. A polyester polymerization catalyst comprising solution containing an aluminum compound, wherein the aluminum compound has a peak of aluminum at chemically shifted position as compared with solution containing the aluminum compound alone in measurement of  $^{27}\text{Al}$ -NMR spectrum.

13. The polyester polymerization catalyst according to any one of claims 8 to 12 comprising solution containing the aluminum compound, wherein ratio of integrated value of the peaks appearing in a range of -15 to 30 ppm in  $^{27}\text{Al}$ -NMR spectrum to the integrated value of standard peaks is 0.3 or higher.

**14. The polyester polymerization catalyst according to any one of claims 8 to 13, wherein the solvent is at least one selected from a group consisting of water and alkylene glycols.**

5       **15. The polyester polymerization catalyst according to any one of claims 8 to 14, wherein the catalyst is produced by mixing under previous formation of solution or slurry of at least one of the aluminum compound and the phosphorus compound.**

10       **16. The polyester polymerization catalyst according to any one of claims 8 to 15, wherein at least one of the aluminum compound and the phosphorus compound previously heated in a solvent is used.**

15       **17. The polyester polymerization catalyst according to any one of claims 8 to 16, wherein the solution or slurry containing the aluminum compound and the phosphorus compound is treated by heating.**

20       **18. The polyester polymerization catalyst according to any one of claims 8 to 17, wherein the aluminum compound include at least one compound selected from aluminum acetate, basic aluminum acetate, aluminum lactate, aluminum chloride, aluminum hydroxide, aluminum hydroxide chloride, and aluminum**  
25       **acetylacetonate.**

30       **19. The polyester polymerization catalyst according to any one of claims 8 to 11 and claims 13 to 18, wherein the phosphorus compound include at least one compound selected from phosphonic acid compounds, phosphinic acid compounds, phosphine oxide**

**compounds, phosphonous acid compounds, phosphinous acid compounds, and phosphine compounds.**

**20. A process of producing a polyester using the  
5 polymerization catalyst described in any one of claims 8 to 19.**

**21. A process of producing a polyester by using the  
polymerization catalyst described in any one of claims 8 to 19,  
wherein the addition timing of the polymerization catalyst is during  
10 time from transesterification reaction or direct esterification  
reaction to polycondensation reaction.**

**22. A polyester produced by using the polymerization  
catalyst described in any one of claims 8 to 19.**

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**23. A polyester produced by the polymerization process  
described in claim 21.**